

REMARKS

Applicants acknowledge receipt of the Office Action dated October 18, 2004. This Office Action rejected all pending claims under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 5,476,817 issued to Karl E. Mautz et al. ("Mautz") in view of U.S. Patent No. 6,410, 417 issued to Nien-Yu Tsai et al. ("Tsai"). In light of the following remarks, Applicants respectfully request the Examiner's reconsideration and reexamination of all pending claims.

As noted above, claims 1-9 were rejected under 35 U.S.C. § 103 as being unpatentable Mautz in view of Tsai. Independent claim 1 recites:

A method comprising:
forming a tungsten plug in a dielectric layer;
forming an electrically conductive interconnect line on the dielectric layer after formation of the tungsten plug, wherein the tungsten plug is electrically connected to the electrically conductive interconnect line;
contacting the electrically conductive interconnect line with liquid water after formation of the electrically conductive interconnect line;
contacting the electrically conductive interconnect line with a solution **to remove residual polymer** after the electrically conductive interconnect line is contacted with the liquid water;
wherein the electrically conductive interconnect line is contacted with the liquid water for less than 120 minutes.

Independent claim 1 recites that the electrically conductive interconnect line is contacted with a solution to remove residual polymer. Applicants submit that this limitation is not taught or fairly suggested in the sections cited with Mautz and Tsai in the prior office action, either alone or in combination with the remaining limitations of independent claim 1.

The Office Action asserts that Mautz discloses many of the acts set forth in independent claim 1. Specifically, the Office Action asserts that Mautz discloses contacting the electrically conductive interconnect line with a solution after the

electrically conductive interconnect line is contacted with liquid water, citing column 6, lines 25 – 30, lines 45 – 62, and column 7, lines 1 – 16 of Mautz in support thereof.

Applicants point out that the Office Action fails to allege that Mautz teaches contacting the electrical conductive interconnect line with a solution “to remove residual polymer” as required by independent claim 1. Column 6, lines 25 – 30, lines 45 – 62, and column 7, lines 1 – 16 of Mautz does not teach or fairly suggest contacting electrically conducting interconnect line with a solution to remove residual polymer either alone or in combination with the remaining limitations of independent claim 1.

Column 5, lines 30 – 34 recites:

The first interlevel insulating layer 28 and interconnects 411 and 412 are rinsed with deionized water (optional), exposed to a fluoride-containing etching solution, and rinsed after being exposed to the etching solution.

However, Column 5, lines 66 and 67 state:

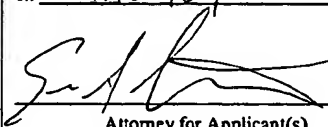
The solution etching step is designed to etch 100-900 angstroms of the first interlevel insulating layer 28...

This cited sections shows that the electrically conductive interconnect line of Mautz is contacted with a solution to remove an interlevel insulating layer, not residual polymer. Given that Mautz in these cited sections teaches contacting and electrically conductive interconnect line with a solution to etch an insulating layer, and not residual polymer as required by independent claim 1, it follows that these cited sections of Mautz do not teach or fairly suggest contacting the electrically conductive interconnect line with a solution to remove residual polymer, either alone or in combination with the remaining limitations of independent claim 1. Accordingly, Applicants submit that independent claim 1 is patentably distinguishable over Mautz in view of Tsai.

Claims 2 – 9 depend directly or indirectly from independent claim 1. Insofar as independent claim 1 has been shown to be patentably distinguishable over Mautz in view of Tsai, it follows that dependent claims 2 – 9 are likewise patentably distinguishable over Mautz in view of Tsai.

CONCLUSION

In view of the amendments and remarks set forth herein, the application is believed to be in condition for allowance and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the Examiner is invited to telephone the undersigned at 512-439-5093.

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Mail Stop AF, COMMISSIONER FOR PATENTS, P. O. Box 1450, Alexandria, VA 22313-1450, on <u>11/22/04</u> .	
 Attorney for Applicant(s)	<u>11/22/04</u> Date of Signature

Respectfully submitted,



Eric A. Stephenson
Attorney for Applicant(s)
Reg. No. 38,321
(512) 439-5093 [Phone]
(512) 439-5099 [Fax]